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The distribution, habitat and status of Lazuli Kingfisher *Halcyon lazuli*

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The Lazuli Kingfisher *Halcyon lazuli* is endemic to Seram, Indonesia and its satellite islands. There has previously been uncertainty surrounding its status and habitat requirements; it is currently listed as Near Threatened. Recent records are from agricultural land, secondary forest and scrub, recently logged (but still fairly intact) forest, and forest edge. Almost all records are from flat land near sea-level in areas highly disturbed by human activity. It appears to be locally distributed, absent from many areas of apparently suitable habitat and may be in long-term decline. The main threat may be from hunting. Detailed surveys and population estimates are required.

INTRODUCTION

The Lazuli Kingfisher *Halcyon lazuli* has only been recorded on three Indonesian islands: Seram, Ambon and Haruku, with a total area of c.18.500 km^2. Other islands have been sometimes mistakenly listed for the species. The type locality was first given erroneously as Sumatra. Two specimens in the Rijksmuseum van Natuurlijke Historie, Leiden, (RMNH), collected from Ternate by Musschenbroek, are doubtless wrongly labelled (van Bemmel 1948). Bowler (1993) wrote that the species also occurred on Saparua. There are no known records from Saparua, but the species may occur there as most species from the three other islands can also be found on Saparua. It may also occur on the little visited island of Nusa Laut, close to Saparua.

The species is well-represented in a number of museum collections, e.g. 35 specimens in the RMNH, 14 in the Natural History Museum (BMNH) and ten in the American Museum of Natural History, New York (AMNH). All specimens where the date of collection is known are from 1842 to 1923. The locality for most of these specimens is given only as the island on which they were collected. Sight records and specimens where a more precise locality is given are listed below and shown in Fig. 1.

DISTRIBUTION

North Seram (west to east)

Saka: 1996, one sighted (Isherwood *et al.* 1996); July 1998, four sighted 5–10 km inland along the Trans-Seram Highway (personal observation). **Roho**: July 1994, sighted (Verbelen 1996); September 1995 one sighted (personal observation). **Wahai**: 1862 or earlier, one collected by E. Benjamins (specimen in RMNH); June 1910, two specimens in RMNH collected by van Dedem (who only collected at Wahai and Sukaradja in north Seram according to Stresemann [1914]); October and November 1909, four collected by Stalker (Stresemann 1914, specimens in BMNH); May 1911, one collected (Stresemann 1914, specimen in AMNH); July 1987, three pairs sighted (Bowler and Taylor 1989); June 1990, three pairs sighted (Bishop 1992); August 1990, two pairs sighted (*vide* Bowler 1993); July 1994, several sighted between Wahai and Solea (Verbelen 1996); May 1995, two between Seatele and Wahai (personal observation); August 1996, three sighted (B. King *in litt.* 1996). **Solea**: July–September 1987, two pairs sighted (Bowler 1993). **Seatele**: May 1995, six sighted near Seatele and one sighted c.8 km inland (personal observation); February 1997, one sighted (M. Heegaard pers. comm.). **Silohanm**: July 1996, one sighted (Isherwood *et al.* 1996). **Hoti** July-August 1996, 4–5 different individuals sighted (47 sightings by the Wae Bula Expedition team; Isherwood *et al.* 1996). **Wae Salas**: August–September 1996, two sighted (Isherwood *et al.* 1996). **Waru**: June 1860, two specimens in BNMH collected by Wallace in 1860 are labelled 'N Ceram' (in North Seram, Wallace mostly collected at Waru, but also father west along the coast to Wahai; Wallace [1869]).

South Seram

Kairatu: April 1910, one collected by van Dedem. The specimen is labelled 'W Ceram', whereas van Dedem only collected near Kairatu, according to Stresemann (1914). **Masohi**: August 1996, two recorded during a 35 km trip from Masohi (B. King *in litt.* 1996). South-western edge of the **Manusela National Park**: March 1998 (F. Lambert *in litt.*). **Moso-Sinahari**: indicated as recorded (Gibbs 1990); October 1992, two seen (S. Jones *in litt.*); November 1992, a pair sighted (N. Bostock *in litt.*). I have been unable to find two of the localities where the species has been collected: **Loki**: November or December 1881, collected by C. C. Platen (Blasius 1882); **Liline**: December 1911, a pair and four newly fledged young collected (Stresemann 1914, specimen in AMNH).

Ambon

Hila: May 1995 and February 1997, two pairs sighted c.3 km inland (personal observation). **Soya**: indicated as recorded on Gunung Sirimau (Gibbs 1990); November 1991, one sighted at 350 m (K. Heij *in litt.*); October 1992, two seen (S. Jones *in litt.*); September 1994, three birds sighted together (two males and one female) between Soya and Ema (records without known observer from BirdLife Ambon files). **Poka**: March 1910, one collected by van Dedem (specimen in RMNH); April 1911, five collected by Boden Kloss (specimens in BMNH). **Tulehu**: March 1997 one sighted c.2 km inland (personal observation). **Waai**: 1877 or earlier, one collected by Teijsman (specimen in RMNH).

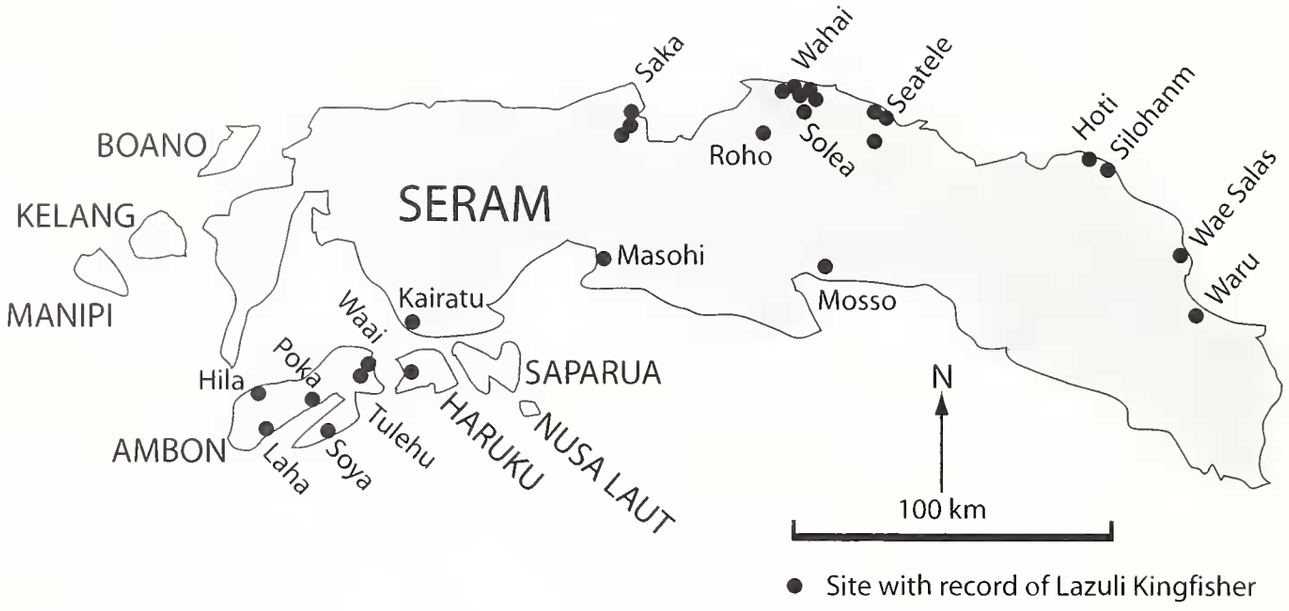

Figure 1. Map showing Seram and its satellite islands with indications of known sites for Lazuli Kingfisher.

Haruku

The only records from Haruku are two specimens collected by Hoedt in 1863 (RMNH collection).

STATUS

This species is a brightly coloured and very vocal bird, which often perches where it can easily be seen. There is therefore little doubt that it is either rare or absent from areas where visitors fail to record it. It is fairly common close to the coast in some parts of North Seram (Wahai, Seatele, Hoti: Isherwood *et al.* 1996). However, it has only been recorded a few times further inland, in spite of more fieldwork having been conducted inland than near the coast. An Operation Raleigh expedition failed to find it during two months of fieldwork in the Manusela National Park in North-central Seram, except for two pairs in degraded forest/garden habitat near Solea (Bowler 1993). Most visitors to Manusela National Park see this species even during short visits, but records are apparently always from the same few areas, as described by Verbelen (1996): 'Several along the coast; several in open areas from the trail between Wahai and Solea. Apparently (almost) absent from the interior of Seram island. We just had one observation further away from the coast: Roho'. The Wae Bula expedition failed to find it during 19 days of fieldwork in primary forest at Wae Fufa (Isherwood *et al.* 1996). There are remarkably few records from the more densely populated parts of Seram, such as near Masohi and Kairatu.

The species is now rare on Ambon even though there is much habitat that would appear to be similar to that where the species is found on Seram. During two and a half years, between 1994 and 1997, when I lived on Ambon and frequently went birdwatching, I found it at only three sites. There are some indications that it has declined on Ambon. Wallace (1869), who had already spent some months on Ambon before visiting Seram, wrote that he found no bird species of interest in Seram. He did not mention his specimens of Lazuli Kingfisher, which were probably the first from the island. At least six specimens were collected in the Poka-Rumah Tiga area on Ambon in 1910 and 1911. This is close to where the Pattimura University is now situated, but several people who know this species have lived here for years without seeing it.

HABITAT

There has been much uncertainty regarding the habitat requirements of the Lazuli Kingfisher (Bowler 1993). Stresemann (1914), who sighted the species only a few times, was the only collector to write about its habitat. White and Bruce (1986) cited Stresemann (1914) describing its habitats as mangroves and swampy woodland. However, recent visitors to mangrove areas in Seram (e.g. at Silohan, Wae Bolifar, Tanjung Okor and Wae Kapailo) and Ambon (Passo) have failed to locate the species (Bowler 1993, Isherwood *et al.* 1996, personal observation). Recent records are from agricultural land, rather open areas near the forest edge, secondary forest/scrub, recently logged (but still fairly intact) forest, and the edges of very disturbed logged rainforest (Bowler and Taylor 1989, Bishop 1992, Bowler 1993, Isherwood *et al.* 1996, Coates and Bishop 1997, F. Lambert *in litt.* 1999, personal observation). There appear to be no records from primary rainforest. Almost all records are from flat land near sea-level in areas highly disturbed by human activity. Some records, especially from Wahai, are from swampy areas. It has been recorded at up to 640 m on Seram and up to 400 m on Ambon (Stresemann 1914, personal observation). From Ambon, records are from low secondary forest at 300–400 m in the steep hills behind Hila, heavily logged forest with only a few large

trees intact along the Tulehu–Mount Salahutu road, and in secondary forest and scrub at c.350 m in the hills near Soya. These areas are all several kilometres from the coast and less frequently visited by local people than areas where the species has not been found.

It is surprising that the Lazuli Kingfisher appears to be only recorded now in human-modified habitats, and not in those habitats in which it presumably evolved. Its original habitat may have been areas within the forest naturally disturbed by storm damage and tree falls, or possibly mangrove or swamp forest. Several bird species of mangroves in Maluku and in Peninsular Malaysia have been able to colonise degraded non-mangrove habitats (Noske 1995, Poulsen and Lambert 2000). There are no other *Halcyon* spp. kingfishers living in the primary forests within the range of Lazuli Kingfisher, although it often coexists with the Collared Kingfisher *Todiramphus chloris* and Sacred Kingfisher *T. sanctus* in man-made habitats.

BREEDING

The few breeding records indicate a breeding season from July–December and a preference for arboreal termite nests as nest sites. In December 1911, a pair and four fledglings were collected at Liline at 640 m (Stresemann 1914). In July 1987, a pair was sighted visiting a hollowed-out termite nest on the side of a coconut palm (Bowler and Taylor 1989). In August 1996, at Hoti, a male was sighted excavating a termite nest, possibly for a nest site (Isherwood *et al.* 1996). In July 1998, c.4 km inland from Saka, three birds were sighted excavating a hole in an arboreal termite nest (personal observation).

CONSERVATION

In 1994, the Lazuli Kingfisher was classified as Vulnerable on account of its small and declining population and range (Collar *et al.* 1994). However, Isherwood *et al.* (1996, 1998) suggested that it was of lower concern than previously thought owing to its tolerance of habitat degradation and human disturbance. Hence, it was reclassified as Near Threatened by BirdLife International (2000).

However, the species is distributed very sparsely, it absent from many areas of apparently suitable habitat, and appears to be in decline despite the increase in apparently suitable habitat through deforestation. Bowler and Taylor (1989) suggested that removal of dead forest trees from coconut plantations may reduce the availability of nest and perching sites for this species. However, the species breeds in arboreal termite nests rather than dead trees, and almost all coconut plantations appear to have suitable perching and nesting on Seram and Ambon.

Hunting may be the main threat to the species. The Lazuli Kingfisher is attractive, not shy, and often perches conspicuously for long periods. Young boys carry slingshots, and men with air rifles are regularly encountered in most areas of suitable habitat, and apparently hunt the species (personal observation). In February 1997, a young man on a bicycle near Seatele was seen carrying a Lazuli Kingfisher, which he had apparently shot with a slingshot (M. Heegaard *in litt.* 1997). Although it is illegal to hunt any kingfishers in Indonesia, people in Maluku are generally unaware of this law. Furthermore, hunting is instead regulated by traditional beliefs. For example, men do not kill animals while their wife is pregnant, as it is feared that this may harm the unborn child.

An education programme should be carried out to publicise the fact that the Lazuli Kingfisher is found only in central Maluku, and that it is of conservation concern.

Near Threatened appears to remain the most appropriate IUCN Red List category for this species at present. Although it is declining, the rate is unlikely to exceed 30% in 10 years (the threshold for Vulnerable under criterion A). Despite having a small range (with an extent of occurrence <20,000 km^2) this does not appear to be fluctuating, declining, or to be severely fragmented or restricted to <10 locations (requirements under criterion B). In order to qualify as Vulnerable under criterion C, the population would have to be estimated to be <10,000 individuals *and* a decline of >10% in 10 years estimated on the basis of quantitative data. Alternatively, if the population was estimated to fall below 1,000 individuals, this species would qualify as Vulnerable under criterion D1. To improve our understanding of its conservation status, a detailed survey to determine population size and trends is required.

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